

1 IN THE CLAIMS:

2 Please amend the claims as follows:

3 1. (Original)

4 In a harvester for vine crops, such as tomatoes, wherein the vines are severed near
5 ground level and removed from the ground with severing means, where the harvester has a
6 wheel-mounted frame having a forward end, a rear end, a right side, a left side and a
7 center, means for moving said harvester forwardly in a field, pickup means adjacent said
8 forward end for picking up crops and attached vines from the field and carrying the crops
9 and vines rearwardly and upwardly, and separating means for separating crops from the
10 vines, an improvement in the pickup means comprising:

11 a plurality of ground-engaging conveyors comprising a central conveyor and an
12 outrigger conveyor, the central conveyor and outrigger conveyor extending from
13 the forward end of the harvester, each conveyor having a bottom end and a top end,
14 a cutter attached at the bottom end, the outrigger conveyor pivotally attached to the
15 central conveyor such that the outrigger conveyor may be pivoted from a first
16 position with the outrigger conveyor in the same relative position as the central
17 conveyor, to a second position with the outrigger conveyor at approximately a right
18 angle to the central conveyor.

19 2. (Amended)

20 The pickup means of claim 1 wherein the central conveyor and outrigger conveyor
21 each comprise a drive shaft at the top end and a plurality of rods connected by a belt at
22 each end of the rods[,] _

23 3. (Original)

24 The pickup means of claim 2 further comprising a hydraulic motor coupled to the drive
25 shaft.

26 4. (Original)

27 The pickup means of claim 1 further comprising a lower cross-conveyor transversely

1 mounted at the top end of the outrigger conveyor, the lower cross-conveyor adapted to
2 receive crops and attached vines transported upwardly from the outrigger conveyor, the
3 lower cross-conveyor moving said crops and attached vines from a side of the frame
4 toward the center of the frame.

5 5. (Original)

6 The pickup means of claim 4 further comprising an intermediate endless loop conveyor
7 such that the long axis of the intermediate conveyor is approximately parallel to the center
8 of the harvester, the intermediate conveyor receiving crops and attached vines from the
9 cross-conveyor and transporting the crops and attached vines upwardly to the separating
10 means.

11 6. (Original)

12 In a harvester for vine crops, such as tomatoes, wherein the vines are severed near ground
13 level and removed from the ground with severing means, where the harvester has a wheel-
14 mounted frame having a forward end, a rear end, a right side, a left side and a center,
15 means for moving said harvester forwardly in a field, pickup means adjacent said forward
16 end for picking up crops and attached vines from the field and carrying the crops and vines
17 rearwardly and upwardly, and separating means for separating crops from the vines, an
18 improvement in the pickup means comprising:

19 a plurality of ground-engaging conveyors comprising a central conveyor, a right-
20 side outrigger conveyor, and a left-side outrigger conveyor, the central conveyor,
21 right-side outrigger conveyor and left-side outrigger conveyor extending from the
22 forward end of the harvester, each conveyor having a bottom end and a top end, a
23 cutter attached at the bottom end, the right-side outrigger conveyor pivotally
24 attached to the central conveyor such that the right-side outrigger conveyor may be
25 pivoted from a first position with the right-side outrigger conveyor in the same
26 relative position as the central conveyor, to a second position with the right-side
27 outrigger conveyor at approximately a right angle to the central conveyor, and the

1 left-side outrigger conveyor pivotally attached to the central conveyor such that the
2 left-side outrigger conveyor may be pivoted from a first position with the left-side
3 outrigger conveyor in the same relative position as the central conveyor, to a
4 second position with the left-side outrigger conveyor at approximately a right angle
5 to the central conveyor

6 7. (Amended)

7 The pickup means of claim 6 wherein the central conveyor, the right-side outrigger
8 conveyor and the left-side outrigger conveyor each comprise a drive shaft at the top end
9 and a plurality of rods connected by a belt at each end of the rods[.] .

10 8. (Original).

11 The pickup means of claim 7 further comprising a hydraulic motor coupled to the drive
12 shaft.

13 9. (Original)

14 The pickup means of claim 6 further comprising a lower left cross-conveyor transversely
15 mounted at the top end of the left-side outrigger conveyor, the lower left cross-conveyor
16 adapted to receive crops and attached vines transported upwardly from the left-side
17 outrigger conveyor, the lower left cross-conveyor moving said crops and attached vines
18 from the left side of the frame toward the center of the frame.

19 10. (Original)

20 The pickup means of claim 6 further comprising a lower right cross-conveyor transversely
21 mounted at the top end of the right-side outrigger conveyor, the lower right cross-conveyor
22 adapted to receive crops and attached vines transported upwardly from the right-side
23 outrigger conveyor, the lower right cross-conveyor moving said crops and attached vines
24 from the right side of the frame toward the center of the frame.

25 11. (Original)

26 The pickup means of claim 9 further comprising an intermediate endless loop conveyor
27 such that the long axis of the intermediate conveyor is approximately parallel to the center

1 of the harvester, the intermediate conveyor receiving crops and attached vines from the
2 lower left cross-conveyor and transporting the crops and attached vines upwardly to the
3 separating means.

4 12. (Original)

5 The pickup means of claim 10 further comprising an intermediate endless loop conveyor
6 such that the long axis of the intermediate conveyor is approximately parallel to the center of the
7 harvester, the intermediate conveyor receiving crops and attached vines from the lower right
8 cross-conveyor and transporting the crops and attached vines upwardly to the separating means.

9 13. (Amended)

10 In a harvester for vine crops, such as tomatoes, wherein the vines are severed near ground
11 level and removed from the ground with severing means, where the harvester has a wheel-
12 mounted frame having a forward end, a rear end, a right side, a left side and a center,
13 means for moving said harvester forwardly in a field, pickup means adjacent said forward
14 end for picking up crops and attached vines from the field and carrying the crops and vines
15 rearwardly and upwardly, and separating means for separating crops from the vines, an
16 improved separating means comprising:

17 (a) a drum housing;

18 (b) a drum assembly disposed within the drum housing, the drum assembly
19 comprising: (i) a drum having a first end and a second end, the first and
20 second end defining a longitudinal axis oriented transverse to the travel
21 direction of the harvester, and a multiplicity of tines extending radially
22 from the outer peripheral surface of the drum; (ii) a first shaft extending
23 through the drum; (iii) a first weight housing adjacent and coupled to the
24 first end, the first shaft extending through the first weight housing; (iv) a
25 second weight housing adjacent and coupled to the second end; (v) a first
26 hydraulic motor coupled to the first shaft; and (vi) a second hydraulic motor
27 for rotating the drum connected to the second weight housing with a spring

coupling, the spring coupling comprising a plurality of springs disposed between two end plates, the end plates on either side of a center plate which supports the first shaft; and

(c) a plurality of stationary rods mounted adjacent to the tines of the drum such that the tines pass through the stationary rods as the drum rotates.

14. (Original)

The improved separating means of claim 13, wherein the first weight housing and the second weight housing each comprise: (i) a plurality of weight shafts secured within each weight housing; (ii) a plurality of eccentrically mounted weights mounted on the weight shafts; (iii) transmission means connecting the first shaft to the weight shafts in the weight housings for rotating the eccentrically mounted weights mounted therein.

15. (Original)

The improved separating means of claim 14 wherein the transmission means comprise a first sheave mounted on the first shaft coupled to the weight shafts of the first weight housing with belts and a second sheave mounted on the first shaft coupled to the weight shafts of the second weight housing with belts.

16. (Original)

The improved separating means of claim 14, wherein the total weight of the eccentrically mounted weights is in excess of 450 pounds.

17. (Original)

The improved separating means of claim 13, wherein the angular velocity of the drum does not exceed 200 revolutions per minute.

18. (Amended)

In a harvester for vine crops, such as tomatoes, wherein the vines are severed near ground level and removed from the ground with severing means, where the harvester has a wheel-mounted frame having a forward end, a rear end, a right side, a left side and a center, means for moving said harvester forwardly in a field, and pickup means adjacent said

1 forward end for picking up crops and attached vines from the field and carrying the crops
2 and vines rearwardly and upwardly, and separating means for separating crops from the
3 vines, improvements to the harvester comprising:

4 (a) the pickup means comprising: a plurality of ground-engaging conveyors
5 comprising a central conveyor and an outrigger conveyor, the central conveyor and
6 outrigger conveyor extending from the forward end of the harvester, each conveyor
7 having a bottom end and a top end, a cutter attached at the bottom end;

8 (b) the separating means comprising:

9 (i) a drum housing;

10 (ii) a drum assembly disposed within the drum housing, the drum assembly
11 comprising: (1) a drum having a first end and a second end, the first and
12 second end defining a longitudinal axis oriented transverse to the travel
13 direction of the harvester, and a multiplicity of tines extending radially
14 from the outer peripheral surface of the drum; (2) a first shaft extending
15 through the drum; (3) a first weight housing adjacent and coupled to the
16 first end, the first shaft extending through the first weight housing; (4) a
17 second weight housing adjacent and coupled to the second end; (5) a first
18 hydraulic motor coupled to the first shaft; and (6) a second hydraulic motor
19 for rotating the drum connected to the second weight housing with a spring
20 coupling, the spring coupling comprising a plurality of springs disposed
21 between two end plates the end plates on either side of a center plate which
22 supports the first shaft; and

23 (iii) a plurality of stationary rods mounted adjacent to the tines of the drum such
24 that the tines pass through the stationary rods as the drum rotates.

25 19. (Original)

26 The harvester of claim 18 wherein the wherein the first weight housing and the second
27 weight housing each comprise: (i) a plurality of weight shafts secured within each weight

1 housing; (ii) a plurality of eccentrically mounted weights mounted on the weight shafts;
2 (iii) transmission means connecting the first shaft to the weight shafts in the weight
3 housings for rotating the eccentrically mounted weights mounted therein.

4 20. (Original)

5 The harvester of claim 19 wherein the transmission means comprise a first sheave
6 mounted on the first shaft coupled to the weight shafts of the first weight housing with
7 belts and a second sheave mounted on the first shaft coupled to the weight shafts of the
8 second weight housing with belts.

9 21. (Original)

10 The harvester of claim 19, wherein the total weight of the eccentrically mounted weights is
11 in excess of 450 pounds.

12 22. (Original)

13 The harvester of claim 19, wherein the angular velocity of the drum does not exceed 200
14 revolutions per minute.

15 23. (Amended)

16 In a harvester for vine crops, such as tomatoes, wherein the vines are severed near ground
17 level and removed from the ground with severing means, where the harvester has a wheel-
18 mounted frame having a forward end, a rear end, a right side, a left side and a center,
19 means for moving said harvester forwardly in a field, and pickup means adjacent said
20 forward end for picking up crops and attached vines from the field and carrying the crops
21 and vines rearwardly and upwardly, and separating means for separating crops from the
22 vines, improvements to the harvester comprising:

23 (a) the pickup means comprising: a plurality of ground-engaging conveyors
24 comprising a central conveyor and an outrigger conveyor, the central conveyor and
25 outrigger conveyor extending from the forward end of the harvester, each conveyor
26 having a bottom end and a top end, a cutter attached at the bottom end, the
27 outrigger conveyor pivotally attached to the central conveyor such that the

1 outrigger conveyor may be pivoted from a first position with the outrigger
2 conveyor in the same relative position as the central conveyor, to a second position
3 with the outrigger conveyor at approximately a right angle to the central conveyor;

4 (b) the separating means comprising:

5 (i) a drum housing;

6 (ii) a drum assembly disposed within the drum housing, the drum assembly
7 comprising: (1) a drum having a first end and a second end, the first and
8 second end defining a longitudinal axis oriented transverse to the travel
9 direction of the harvester, and a multiplicity of tines extending radially
10 from the outer peripheral surface of the drum; (2) a first shaft extending
11 through the drum; (3) a first weight housing adjacent and coupled to the
12 first end, the first shaft extending through the first weight housing; (4) a
13 second weight housing adjacent and coupled to the second end; (5) a first
14 hydraulic motor coupled to the first shaft; and (6) a second hydraulic motor
15 for rotating the drum connected to the second weight housing with a spring
16 coupling, the spring coupling comprising a plurality of springs disposed
17 between two end plates the end plates on either side of a center plate which
18 supports the first shaft; and

19 (iii) a plurality of stationary rods mounted adjacent to the tines of the drum such
20 that the tines pass through the stationary rods as the drum rotates.

21 24. (Original)

22 The harvester of claim 23 wherein the wherein the first weight housing and the second
23 weight housing each comprise: (i) a plurality of weight shafts secured within each weight
24 housing; (ii) a plurality of eccentrically mounted weights mounted on the weight shafts;
25 (iii) transmission means connecting the first shaft to the weight shafts in the weight
26 housings for rotating the eccentrically mounted weights mounted therein.

27 25. (Original)

1 The harvester of claim 24 wherein the transmission means comprise a first sheave
2 mounted on the first shaft coupled to the weight shafts of the first weight housing with
3 belts and a second sheave mounted on the first shaft coupled to the weight shafts of the
4 second weight housing with belts.

5 26. (Original)

6 The harvester of claim 24, wherein the total weight of the eccentrically mounted weights is
7 in excess of 450 pounds.

8 27. (Original)

9 The harvester of claim 24, wherein the angular velocity of the drum does not exceed 200
10 revolutions per minute.

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